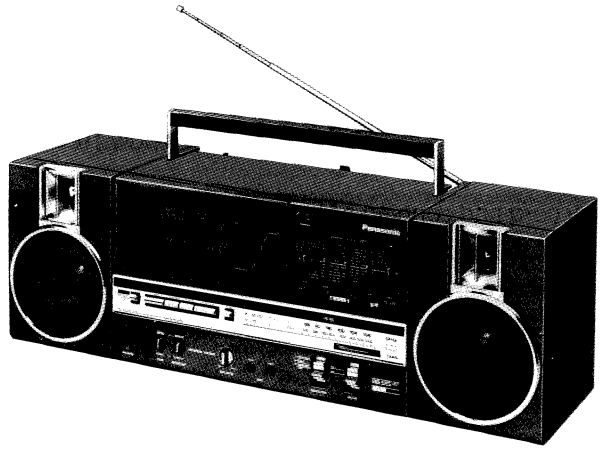
ORDER NO. RD83032066C1

Service Manual

Radio Cassette

RX-C45/©

3-Piece FM-AM-FM Stereo Radio Cassette Recorder



■ SPECIFICATIONS

General:

Power Requirement:	AC; 110~115/115~127/200~220/ 230~250 V, 50/60 Hz Battery; 12 V (Eight "D" Size Flashlight Batteries) (Panasonic UM-1 or equivalent) Car battery; with optional car adaptor RP-952
Power Consumption:	22 W (AC only)
Power Output:	15 W . . . RMS (max.)
Speaker:	Woofer; 10 cm (4") PM Dynamic Speaker (3Ω) Tweeter; 3 cm (1 1/4") Ceramic Speaker (1.3 kΩ)
Input:	MIC; sensitivity 0.25 mV/applicable microphone impedance 200~600Ω Phone; sensitivity 5 mV/47 kΩ over Line in; sensitivity 200 mV/47 kΩ over DC IN; 13.2 V
Output:	Line out; sensitivity 360 mV/4.7 kΩ under EXT. Speaker; 3~8Ω Headphones; 8Ω
Dimensions:	537 (W)×176 (H)×183 (D) mm (21 3/16×6 15/16×7 3/16)" Main Unit 304 (W)×176 (H)×183 (D) mm (11 15/16×6 15/16×7 3/16)" Speaker Box 118 (W)×176 (H)×148 (D) mm (4 5/8×6 15/16×5 7/8)"
Weight:	5.4 kg (11 lb. 14 oz.) without batteries

Radio Section:

Radio Frequency: Range:	FM; 88~108 MHz AM; 525~1610 kHz
Intermediate Frequency:	FM; 10.7 MHz AM; 455 kHz
Sensitivity:	FM; 2μV (−3 dB Limit sens) AM; 56μV/m/50 mW output

Tape Deck Section:

Frequency Response:	40~12,000 Hz (with normal tape) 40~13,000 Hz (with Metal tape)
Recording system:	AC bias, Magnet erase
Tape Speed:	4.8 cm/s, (1 7/8 ips)
Wow and Flutter:	0.08% (WRMS)
Program Time:	1 hout with C-60 cassette tape
Track System:	4-track 2 chanel stereo recording and playback

Weights and dimensions shown are approximate.
(Les poids et demensions mentaionnes sont approximatifs.)
Specifications are subject to change without notice.

Panasonic®

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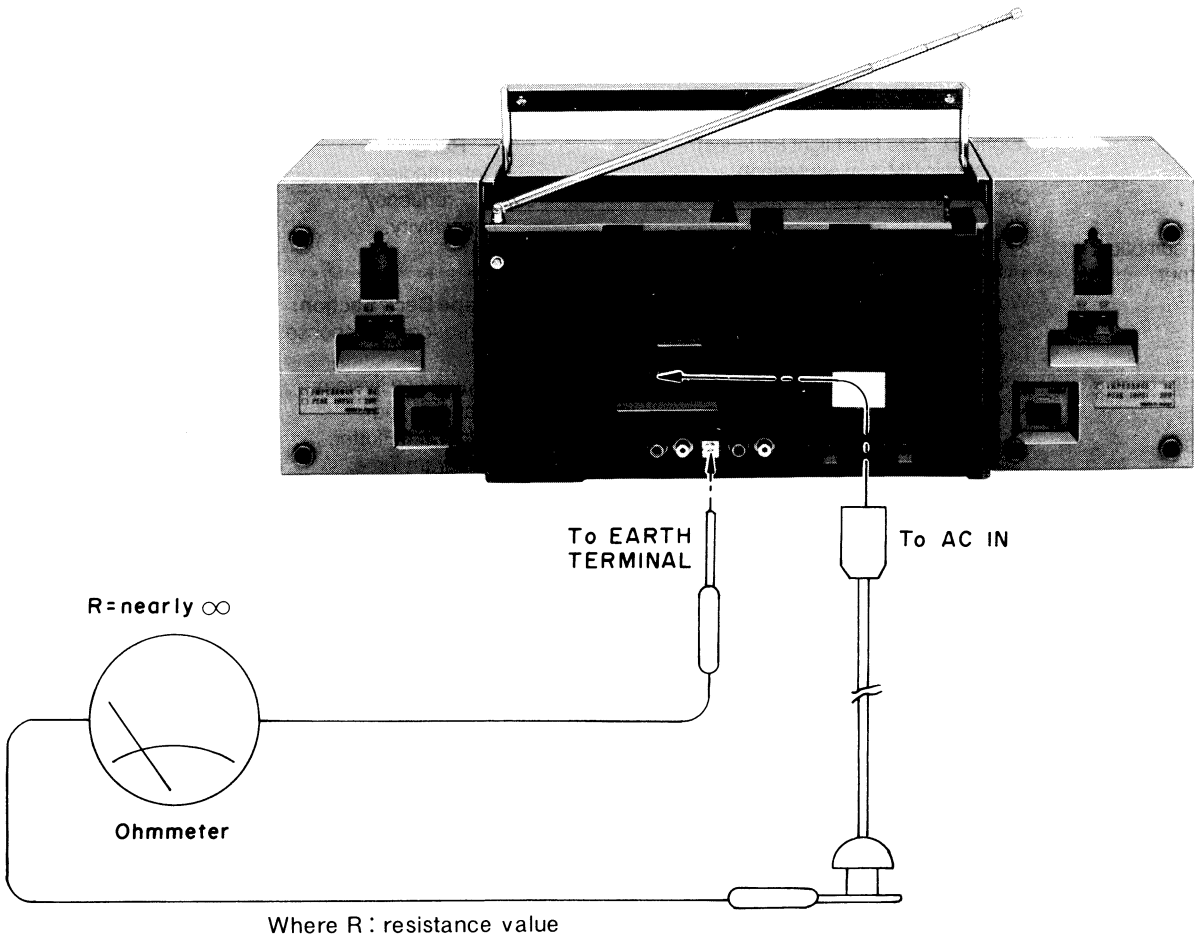
SAFETY PRECAUTION (For USA)

1. Before servicing (such as replacement of components), unplug the power supply cord to prevent an electric shock.
2. Use only manufacturer's recommended components for safety.
   Check condition of power supply cord and replace if wear or damage is evident.
3. After servicing, be sure to restore the following to the condition in which they were originally installed:
   (1) the lead dress and
   (2) insulation barriers, insulation papers, shields and the like.
4. Before returning a serviced apparatus to a customer, make the following insulation resistance test to prevent a customer from being exposed to a shock hazard.

INSULATION RESISTANCE TEST (See figure below.) (For USA)

1. Unplug the power supply cord and connect a jumper wire between the two prongs on the plug.
2. Turn on the power switch of the apparatus.
3. Measure the resistance value (with an ohmmeter) between the jumpered AC plug and the exposed metallic cabinet part on the apparatus as shown in figure below.
   The reading should be as shown in figure below.
   In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the apparatus should be repaired and rechecked before it is returned to a customer.



Where R : resistance value

Fig. 1

Notes:

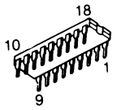
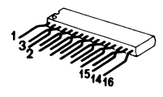
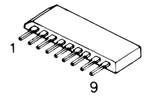
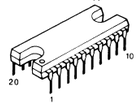
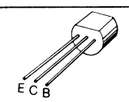
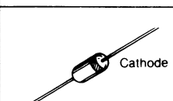
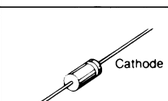
1. S1-1, S1-2: Band switch in "AM" position. (1 . . . AM, 3 . . . FM)
2. S2-1~S2-4: Function switch in "TAPE" position. (1 . . . TAPE/POWER OFF, 2 . . . RADIO) 3 . . . LINE/PHONO)
3. S3-1, S3-2: Mode/Beat Proof switch in "MONO/II" position. (1 . . . MONO/II, 3 . . . STEREO/I)
4. S4-1~S4-6: Tape switch in "NORMAL" position. (1 . . . NORMAL, 3 . . . METAL)
5. S5-1~S5-10: Play/Record switch in "Play" position. (1 . . . Play, 3 . . . Record)
6. S6-1~S6-4: Input switch in "LINE IN" position. (1 . . . LINE IN, 3 . . . PHONO)
7. S8: AC/DC switch in "DC" position.
8. S9: Motor switch.
9. S10: Playback switch.
10. S11: FF/REW switch.
11. S13:Voltage selector switch.
12. VR101, 201: Volume control VR.
    VR102~106, 202~206: Graphic equalizer VR.
    VR301: MPX adjustment VR.
    VR302: Balance control VR.
    T302: Bias oscillator transformer.
13. DC voltage measurements are taken with electronics voltmeter from negative terminal fo battery.
    < > . . . FM, ( ) . . . AM, [ ] . . . Record.
14. Battery current: No signal . . . . . 115 mA
    Maximum output (Radio) 1.4A
    Maximum output (Playback) 1.4A
    Maximum output (Record) 1.5A
15. The mark (※) shows printed-type resistors.
16. **Important safety notice**
    The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
    When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

BIAS VOLTAGE 17~24 V (Metal)
11~15 V (Normal)

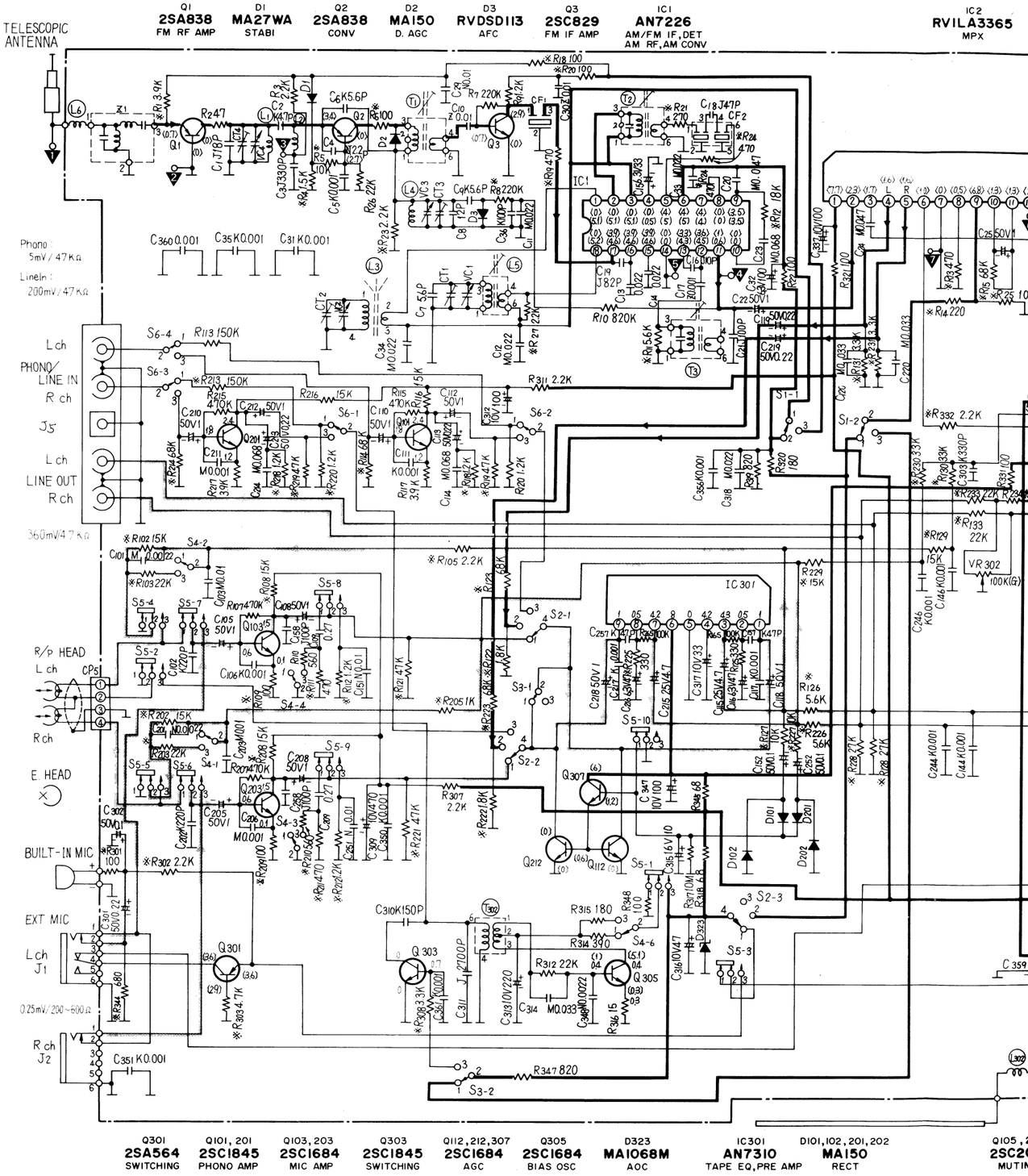
OVERALL FREQUENCY RESPONSE (Line out)

Metal: 100 Hz 1±5 dB; 1 kHz 0 dB; 8 kHz −2±6 dB
Normal: 100 Hz −1±5 dB; 1 kHz 0 dB; 8 kHz −3±6 dB

— + Ⓑ Voltage Line
⟹ Record Signal Line
➡ Radio (FM) Signal Line
⟹ Playback Signal Line

 IC1	 IC2	 IC301, 304	 IC303
 Q1~3,101,103,105~112 201 203, 205~212 301, 303, 305~307	 D1~3, 101, 102 201, 202, 320, 321	 D316~319	

SCHEMATIC DIAGRAM MODE



SCHEMATIC DIAGRAM MODEL RX-C45/©

. 115 mA
. . . 1.4A
. . . 1.4A
. . . 1.5A

s special
al shock

specified
areas of

Line
al Line
Signal Line
nal Line

Q1 2SA838 FM RF AMP
D1 MA27WA STABI
Q2 2SA838 CONV
D2 MA150 D. AGC
D3 RVDSD113 AFC
Q3 2SC829 FM IF AMP
IC1 AN7226 AM/FM IF,DET AM RF,AM CONV
IC2 RVILA3365 MPX
D320,321 RVDUS1040 SWITCHING
D308,310,311~315 LN082124P FM ST/POWER BATT IND LEVEL METER
IC304 AN6884 LEVEL METER
Q106~111,206~211 2SC1684 EQ AMP

TELESCOPIC ANTENNA

Phono : 5mV/47KΩ
LineIn : 200mV/47KΩ
Lch
PHONO/ LINE IN Rch
J5
Lch
LINE OUT Rch
360mV/4.7KΩ

R/P HEAD Lch
Rch
E. HEAD
BUILT-IN MIC
EXT MIC
Lch J1
0.25mV/200~600Ω
Rch J2

S1-1 POWER OFF/TAPE RADIO
S1-2 AM FM
S2-1 LINE/PHONO
S2-2 S2-3 S2-4
S4-1 STEREO/MONO
S4-2 S4-3 NORMAL METAL
S4-4 S4-6
S5-1 PLAY RECORD
S5-2 S5-3 S5-8 S5-9 S5-10
S6-1 S6-3
S6-2 S6-4 PHONO LINE
BOTTOM VIEW

PM DYNAMIC SP WOOFER 10cm(4") 3Ω
(Lch)
CERAMIC SP TWEETER 3cm(1 1/4") 1.3KΩ
CERAMIC SP TWEETER 3cm(1 1/4") 1.3KΩ
(Rch)
PM DYNAMIC SP WOOFER 10cm(4") 3Ω
HEAD PHONE J3 8Ω

AC IN
DC IN 12V J4
BATT (12V) (UM-1)×8

Q301 2SA564 SWITCHING
Q101,201 2SC1845 PHONO AMP
Q103,203 2SC1684 MIC AMP
Q303 2SC1845 SWITCHING
Q112,212,307 2SC1684 AGC
Q305 2SC1684 BIAS OSC
D323 MA1068M AOC
IC301 AN7310 TAPE EQ,PRE AMP
D101,102,201,202 MA150 RECT
Q105,205 2SC2001 MUTING
Q306 2SD592 REGULATOR
D324 MA1100M REGULATOR
IC303 RVILA4505R POWER AMP
D316~319 RVDSMIA02 RECT

LOCATION OF CONTROLS AND COMPONENTS

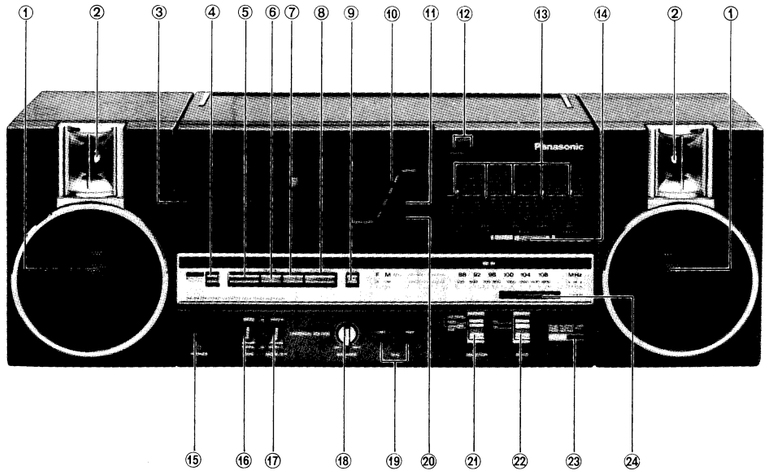


Fig. 2

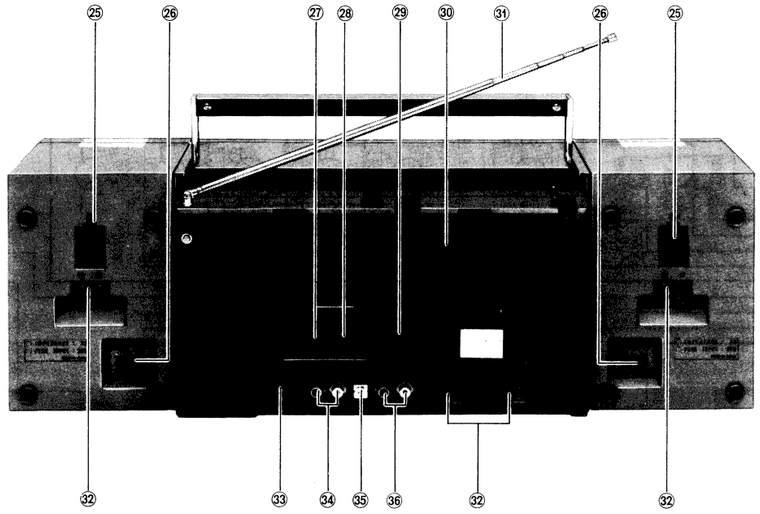


Fig. 3

① Speakers (Woofer), 10 cm (4''), 3Ω
② Speakers (Tweeter), 3 cm (1¼''), 1.3 kΩ
③ Cassette Compartment
④ Record Button
⑤ Playback Button
⑥ Rewind/Review Button
⑦ Fast Forward/Cue Button
⑧ Stop/Eject Button
⑨ Pause Button
⑩ Level Meter (LEVEL METER)
⑪ Power Battery Indicator (POWER/BATT)
⑫ Tape Counter and Reset Button (COUNTER)
⑬ Graphic Equalizer Controls (GRAPHIC EQUALIZER)
⑭ Volume Control (VOLUME)
⑮ Headphone Jack (PHONES), 8Ω
⑯ Tape Switch (METAL/NORMAL)
⑰ Mode/Beat Proof Switch (MONO/II, STEREO/I)
⑱ Balance Control (BALANCE)
⑲ Microphone Jacks (MIC), 0.25 mV, 200~600Ω
⑳ FM Stereo Indicator (FM STEREO)
㉑ Function Switch (LINE/PHONO, RADIO, POWER OFF/TAPE)
㉒ Band Switch (FM/AM)
㉓ Built-in Microphone (MIC)
㉔ Tuning Control (TUNING)
㉕ Speaker Wall Mounts
㉖ Speaker Switch (LOCK/RELEASE)
㉗ AC Socket (AC IN)
㉘ DC Input Jack (DC IN 13.2 V ⊖-◉-⊕)
㉙ Voltage Selector (VOLTAGE SELECTOR)
㉚ Battery Compartment
㉛ Telescopic Antenna
㉜ Speaker Terminals
㉝ Input Switch (PHONO/LINE IN)
㉞ Phono/Line Input Jacks (PHONO/LINE IN),
Phono: 5 mV, 47 kΩ over, Line In: 200 mV, 47 kΩ over
㉟ Phono Ground Terminal
㊱ Line Output Jacks (LINE OUT), 360 mV, 4.7 kΩ under

DISASSEMBLY INSTRUCTIONS

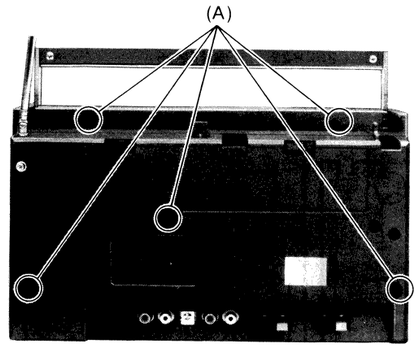


Fig. 4

Fig. 5

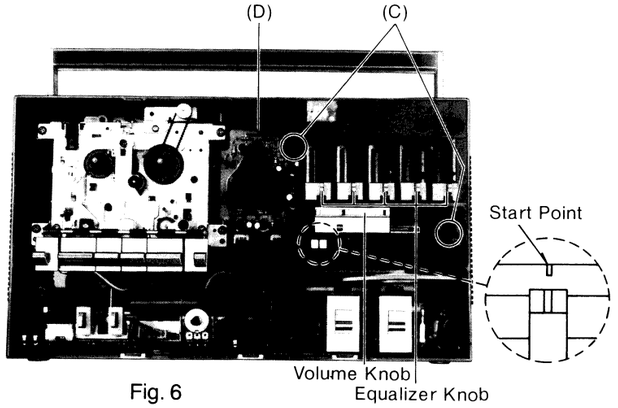


Fig. 6

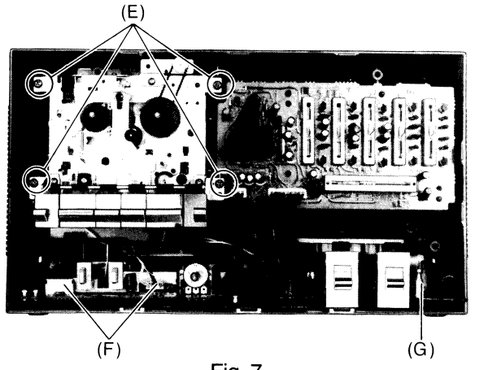


Fig. 7

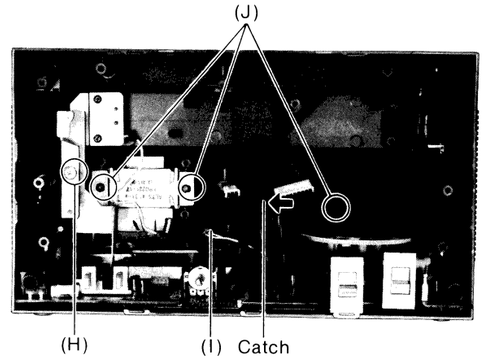


Fig. 8

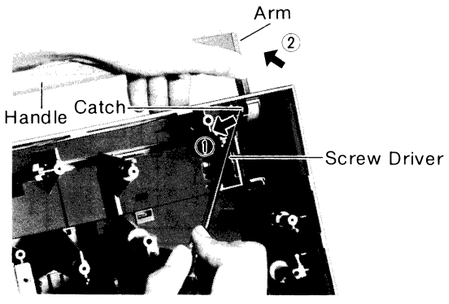


Fig. 9

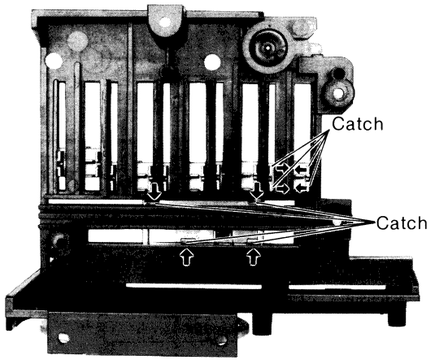


Fig. 10

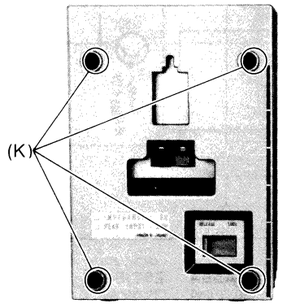


Fig. 11

*1.

DISASSEMBLY INSTRUCTIONS

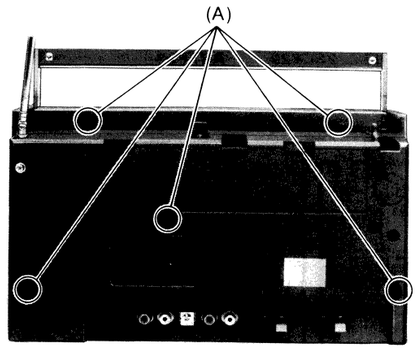


Fig. 4

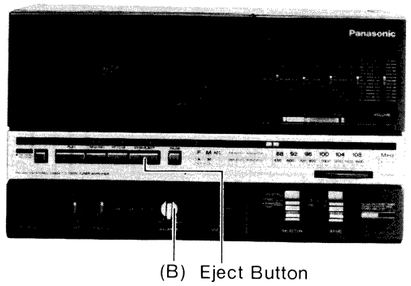


Fig. 5

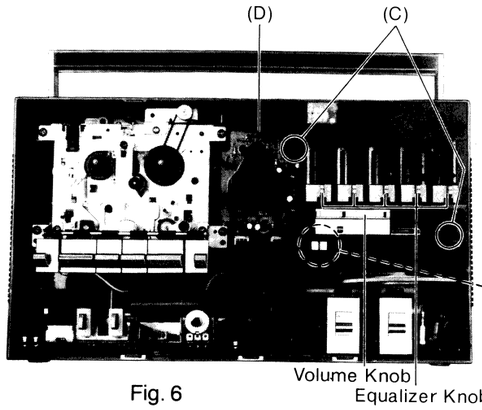


Fig. 6

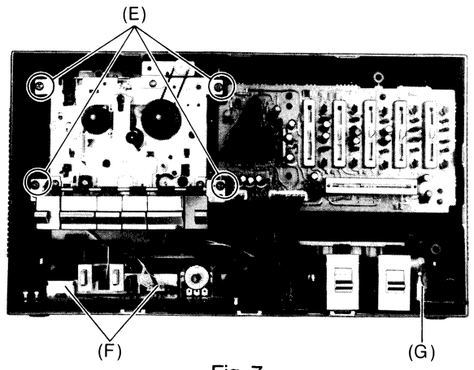


Fig. 7

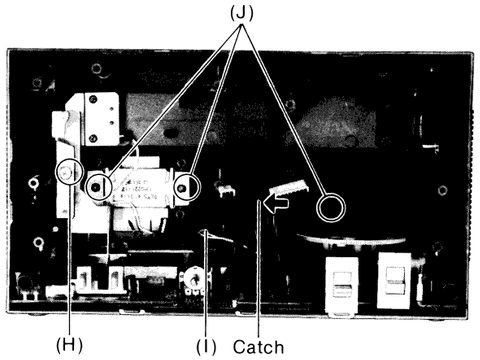


Fig. 8

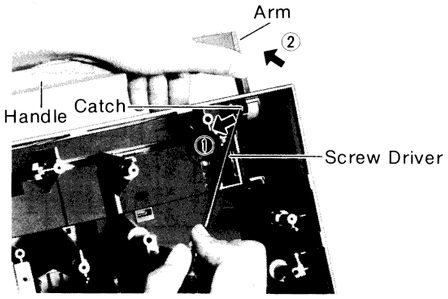


Fig. 9

Fig. 10

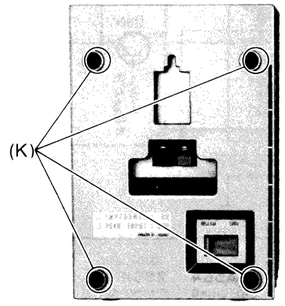


Fig. 11

Fig. 12

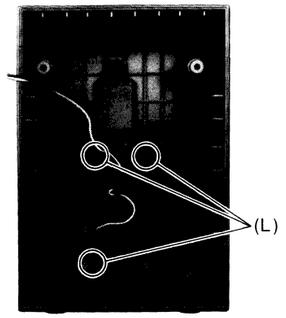
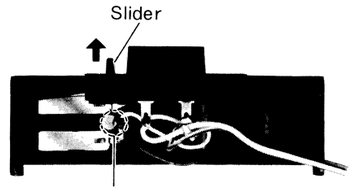


Fig. 13



When removing the slider, the spring and steel ball will go out.

Fig. 14

■ TO REMOVE CASSETTE PANEL

●Remove the cassette panel in the direction of arrow.

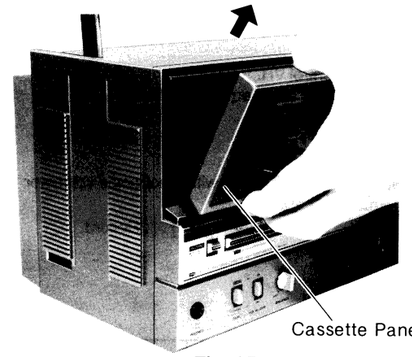


Fig. 15

Procedure	To remove—.	Remove—.	Shown in Fig.—.
1	Front Cabinet	Screw (3×45) ..... (A)×5	4
2		Knob ..... (B)×1	5
3		Push the eject button	5
4	Dial Chassis *1	Screw (3×12) ..... (C)×2	6
5		Remove the counter belt ..... (D)×1	6
6		Pull out the dial chassis	——
7	Mechanism	Screw (3×12) ..... (E)×4	7
8		Socket ..... (F)×2	7
9	Circuit Board	Socket ..... (G)×1	7
10		Screw (3×12) ..... (H)×1	8
11		Socket ..... (I)×1	8
12		Pull out the circuit board	——
13	Power Source Circuit Board	Screw (3×12) ..... (J)×3	8
14		Push the catch in the direction of arrow and remove the circuit board.	8
15	Handle	Push the catch in the direction of arrow ① and remove the handle in the direction of arrow ②.	9
16	Equalizer & Volume knob	Push the catch and remove the knob.	10
17	Function & Band knob	Push the catch in the direction of arrow and remove the knob.	8
18	Speaker Cabinet	Screw (3×20) ..... (K)×4	11
19	Slider Chassis	Remove the bracket in the direction of arrow.	12
20		Screw (3×12) ..... (L)×3	13
21	Slider	Remove the slider in the direction of arrow.	14

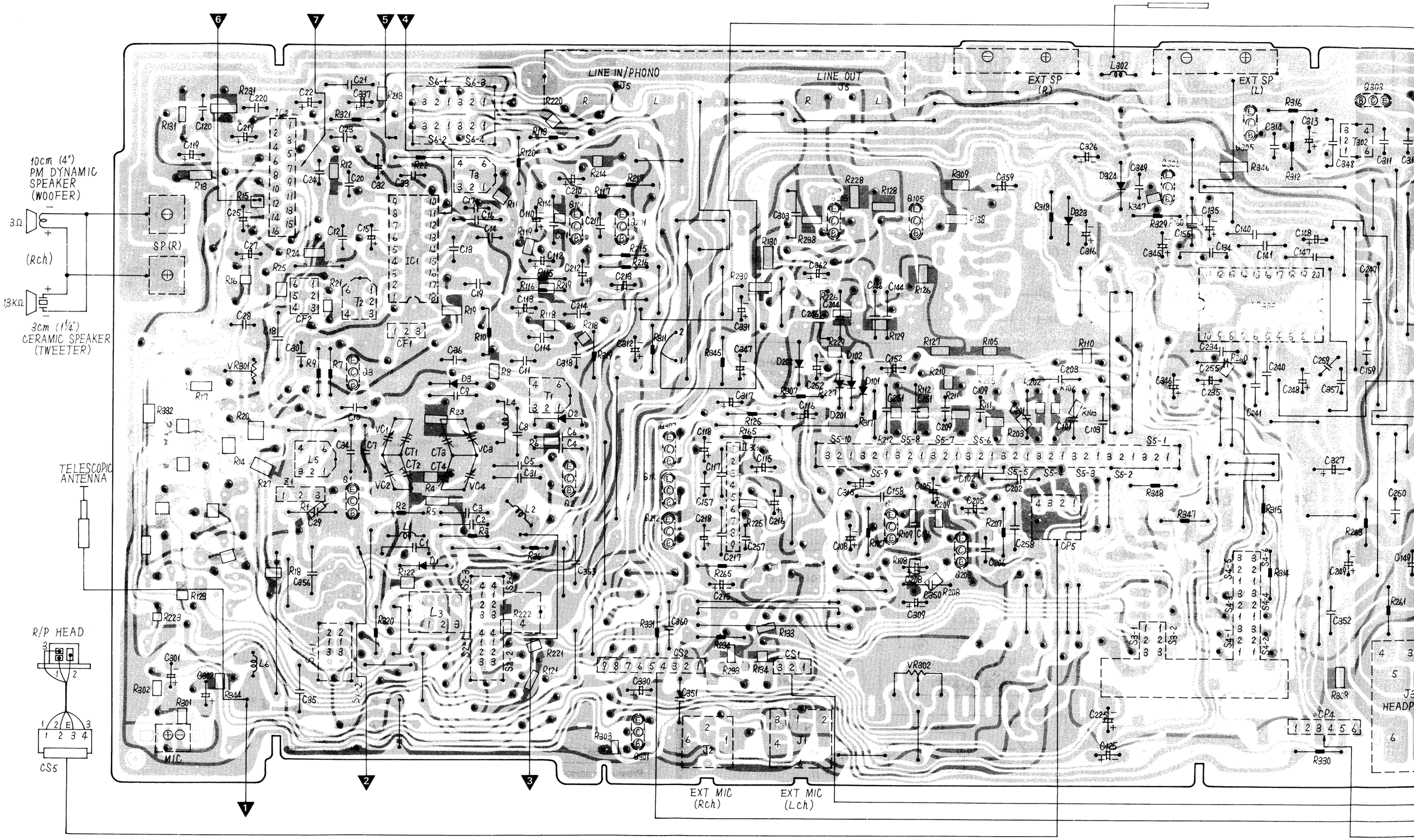
*1. To reassemble the dial chassis, note the following.
1) Set the equalizer and volume knob at the position as shown in fig. 6.
2) Set the tuning capacitor to maximum capacity. (Turn to fully counter-clockwise.)
3) Set the dial pointer to start point as shown in fig. 6.
4) Hang the counter belt.

ER OFF/TAPE)

Ω over

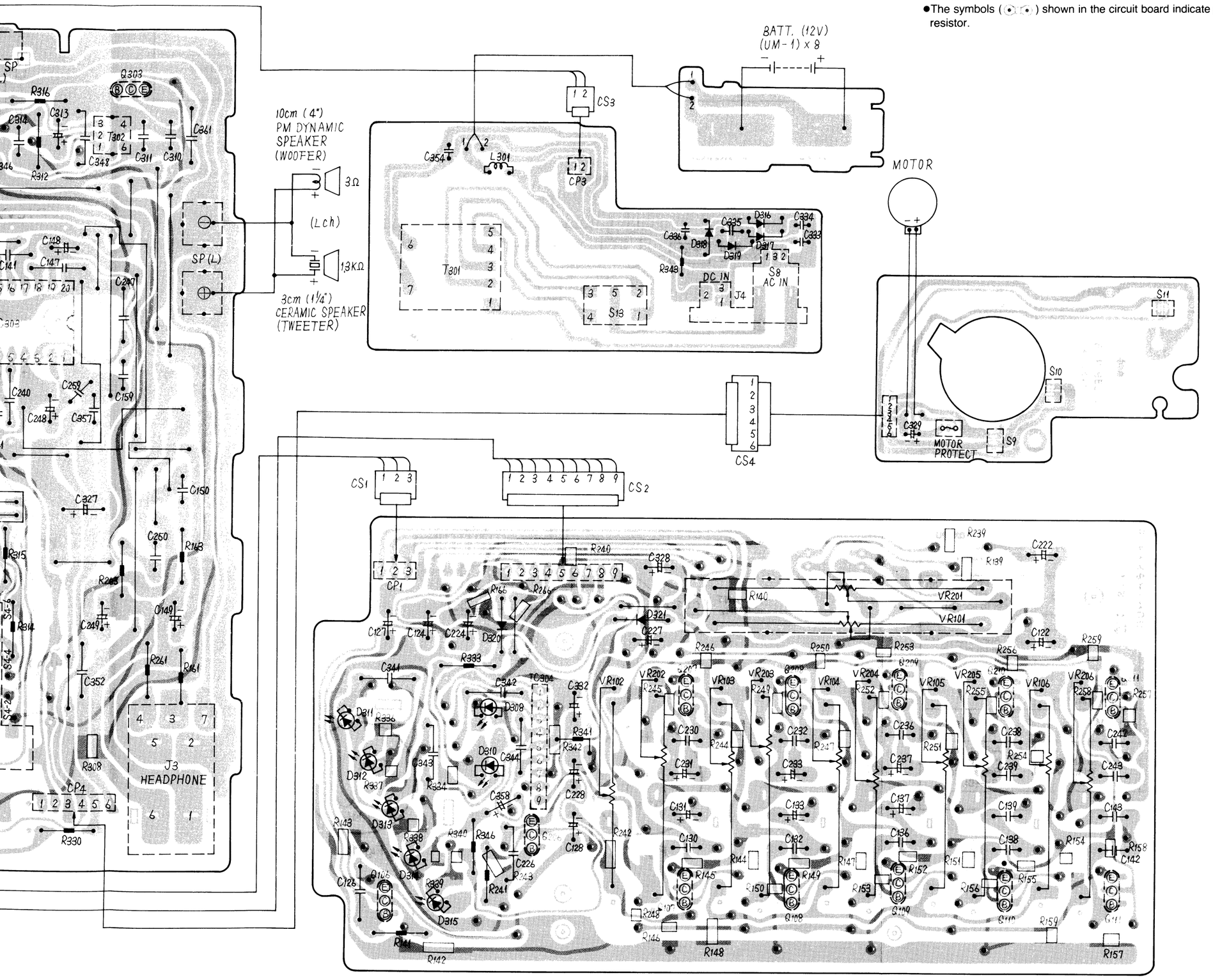
under

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-C45/©

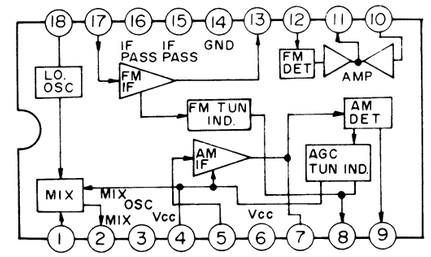


MODEL RX-C45/©

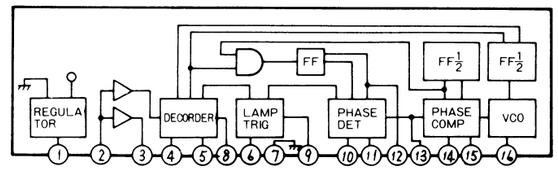
- The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
- The symbols (●) shown in the circuit board indicate printed resistor.



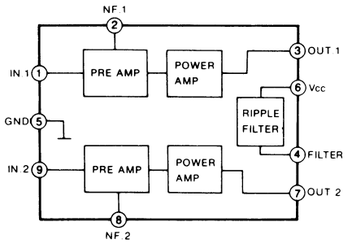
IC1 AN7226



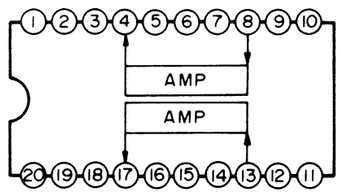
IC2 RVILA3365



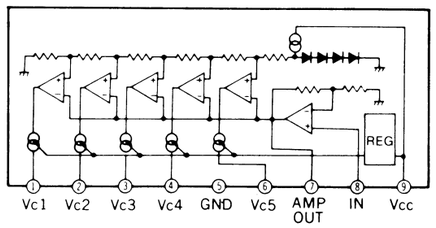
IC301 AN7310



IC303 RVILA4505R



IC304 AN6884



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set band switch to AM or FM. 3. Set graphic equalizer to center. 4. Set mode/BP switch to stereo/I.	5. Set function switch to radio. 6. Set power source voltage to 12 V DC. 7. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/ about 600 kHz)	Output meter across voice coil.	T2 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	,,	511 kHz	Tuning capacitor fully closed.	,,	L5 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	,,	1,650 kHz	Tuning capacitor fully open.	,,	CT1 (AM OSC Trimmer)	,,
(4)	AM	,,	550 kHz	Tune to signal.	,,	(*1) L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	,,	1,500 kHz	,,	,,	CT2 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(*1) Cement antenna bobbin with wax after completing alignment.

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001 μF to test point ▼7, Negative side to test point ▼2.	10.7 MHz (SWP.)	Point of non-interference. (on/ about 90 MHz)	Connect vert. amp. of scope to test point ▼4. Negative side to test point ▼5.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 17).
(2)	FM	,,	,,	,,	,,	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 18).
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼2	86.2 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L4 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.3 MHz	Variable capacitor fully open.	,,	CT3 (FM OSC Trimmer)	,,
(5)	FM		90 MHz	Tune to signal.	,,	L1 (FM ANT Coil)	,,
(6)	FM		106 MHz	,,	,,	CT4 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).

(*2) Three output responses will be present; proper tuning is the center frequency.

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98 MHz, 60 dB	▼6 . . (+) ▼7 . . (−)	VR301	19 kHz	Adjust VR301, for 19 kHz (±150 Hz) reading on electronics counter.

■ ALIGNMENT POINTS

●As for test points, refer to the circuit board, on page 7.

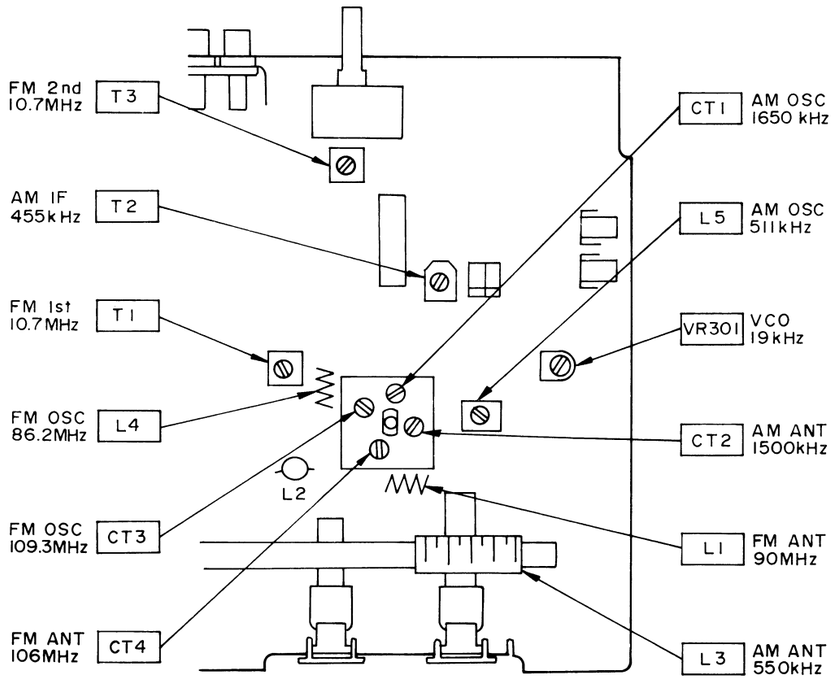


Fig. 16

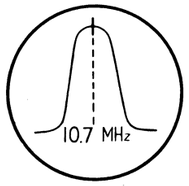


Fig. 17

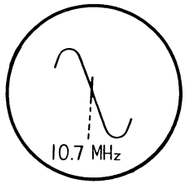
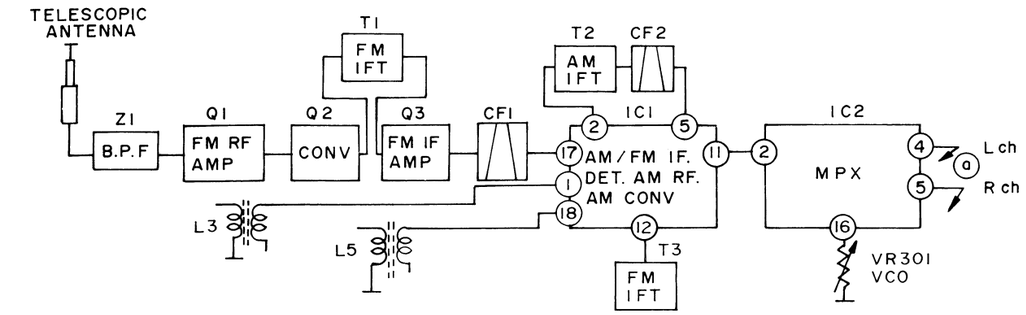


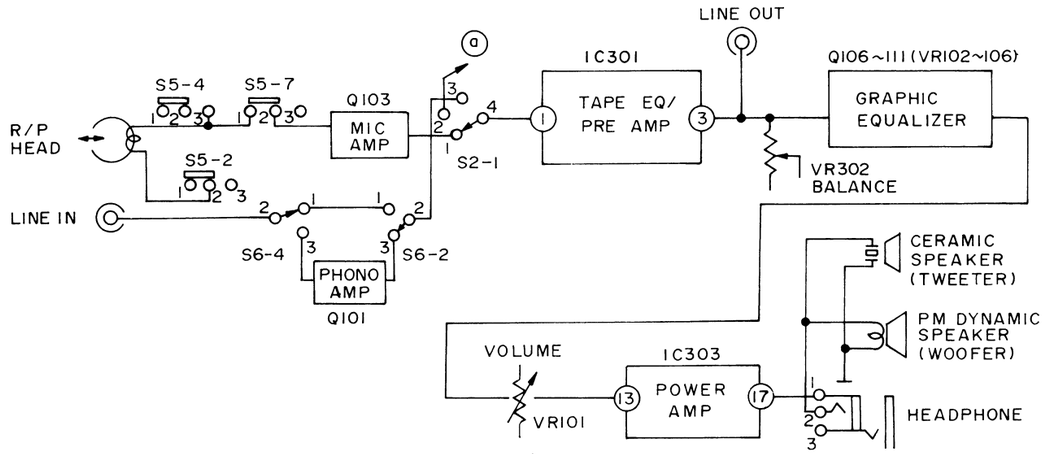
Fig. 18

BLOCK DIAGRAM

<Radio>



<Play> Lch



<Record> Lch

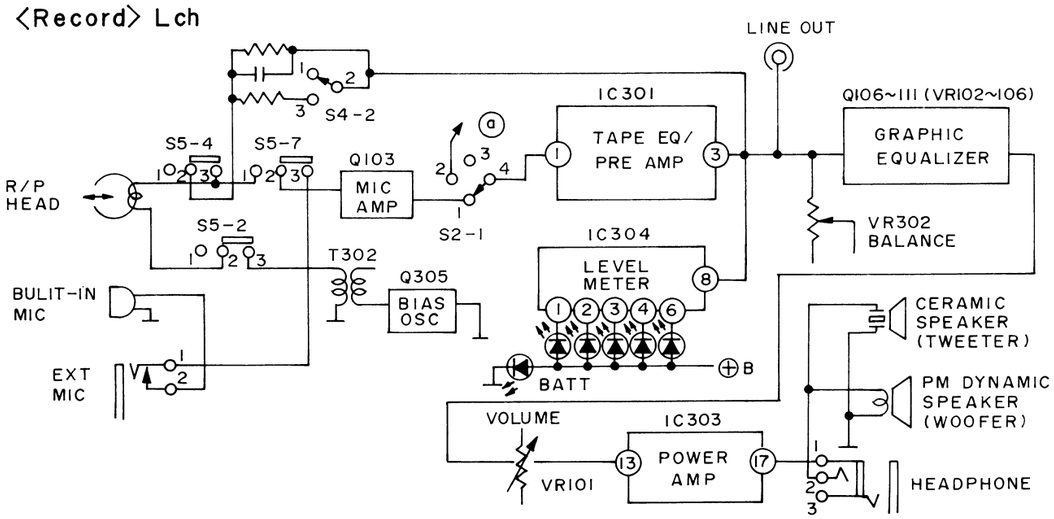


Fig. 19

MECHANISM PARTS LOCATION

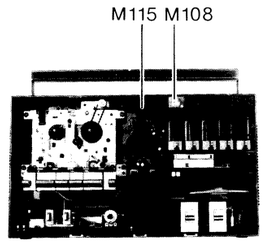


Fig. 20

Fig. 21

Fig. 22

Specification

Pressure of pressure roller	230~370 gr
Takeup tension	30~65 gr
Wow & flutter	Less than 0.08% (WRMS)
Tape speed fluctuation	±2%

■ To Remove Motor

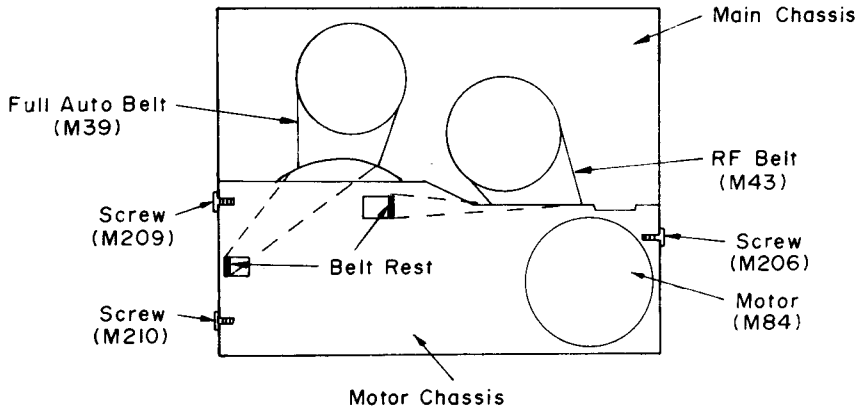


Fig. 23

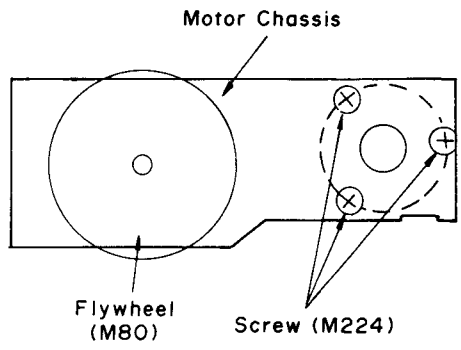


Fig. 24

1. Attach the full auto belt (M39) and RF belt (M43) to the belt rest of motor chassis.
2. Remove three (3) screws (M206, 209, 210).
3. Remove the motor chassis and the flywheel from main chassis.
4. Remove three (3) screws (M224) from motor chassis.
5. To reassemble, reverse the above procedure.

CABINET PARTS LOCATION

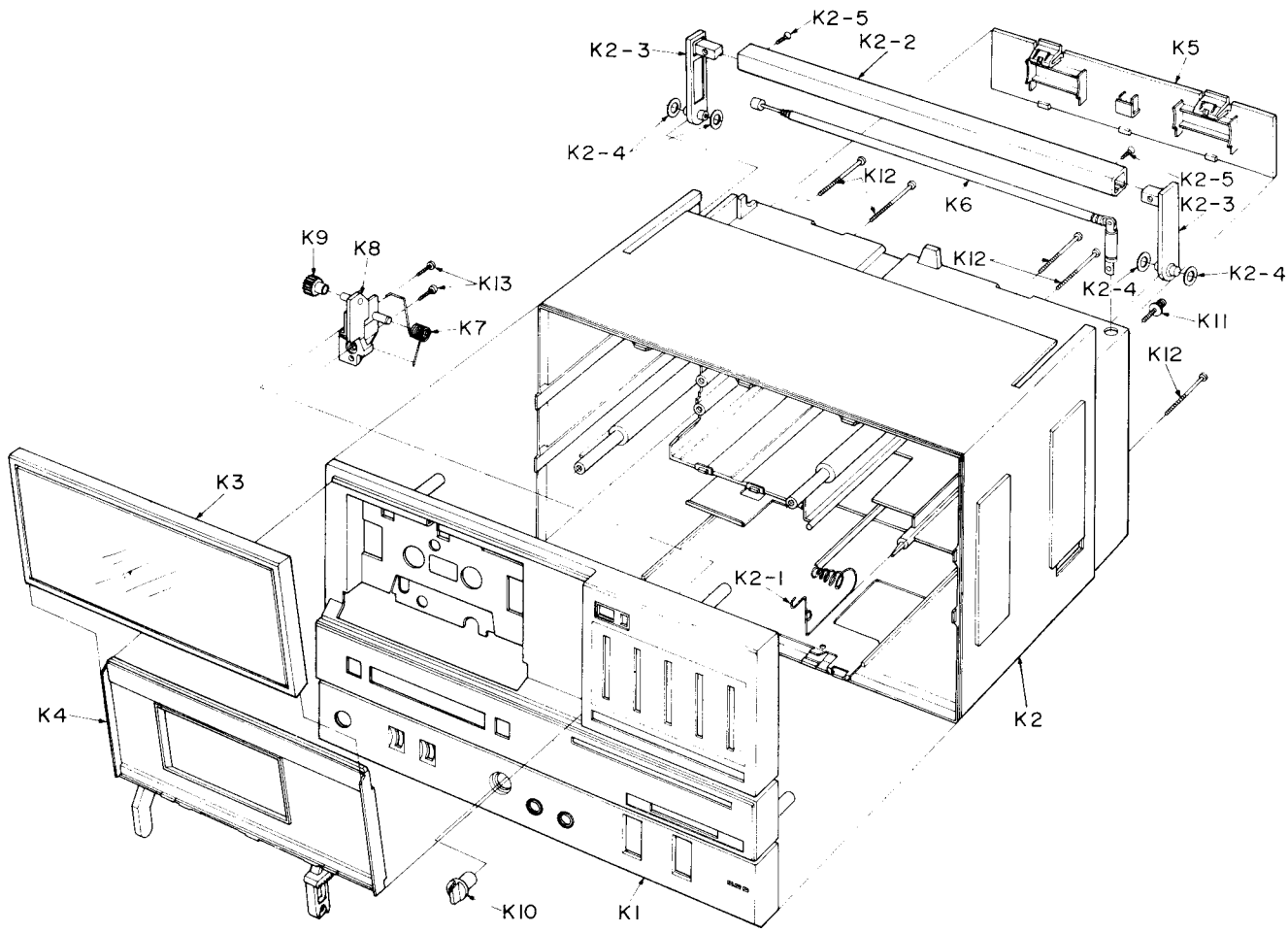


Fig. 25

Fig. 26

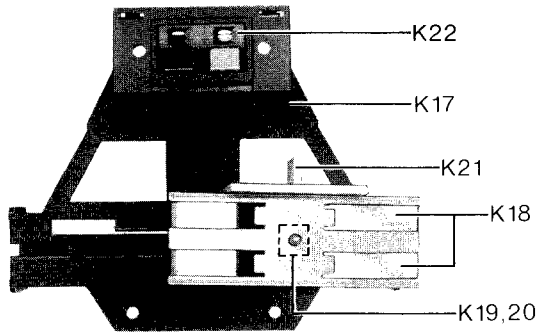


Fig. 27

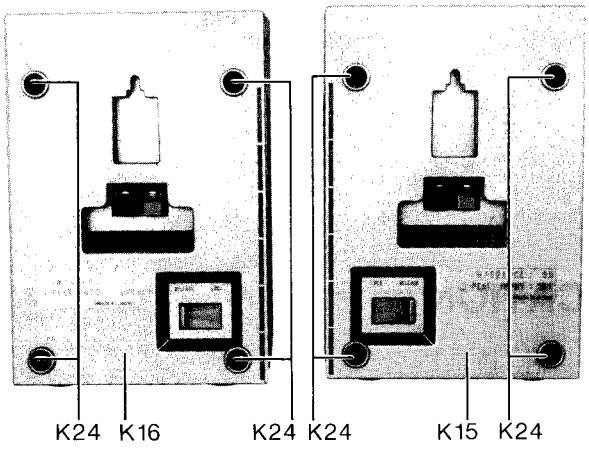


Fig. 28

Fig. 29

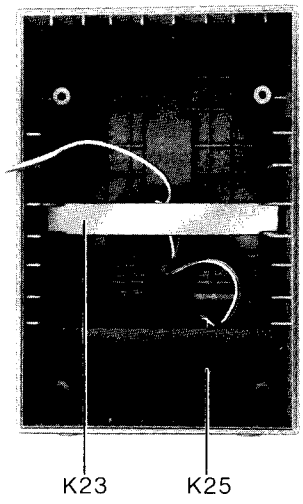


Fig. 30

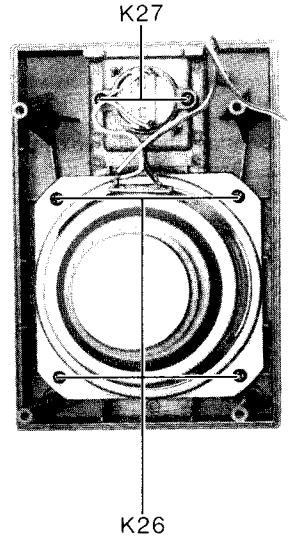


Fig. 31

ELECTRICAL PARTS LOCATION

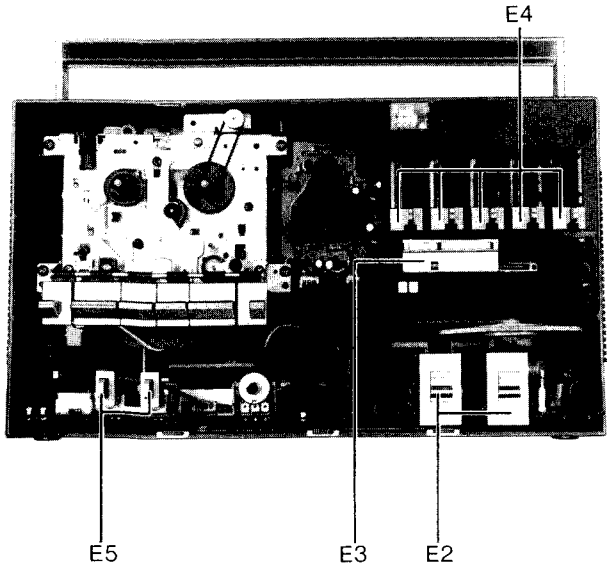


Fig. 32

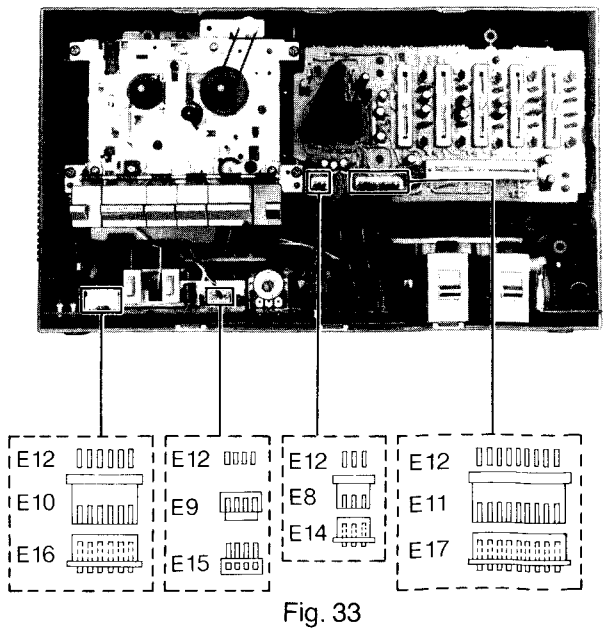


Fig. 33

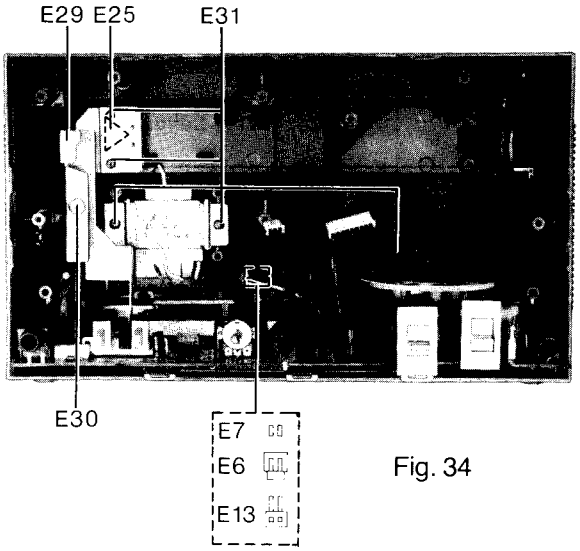


Fig. 34

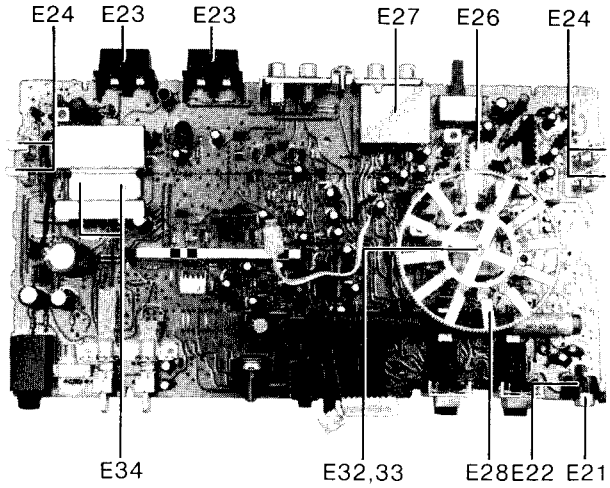


Fig. 35

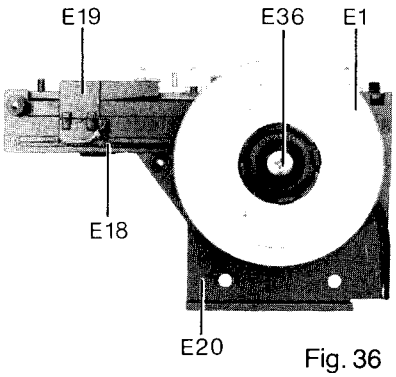


Fig. 36

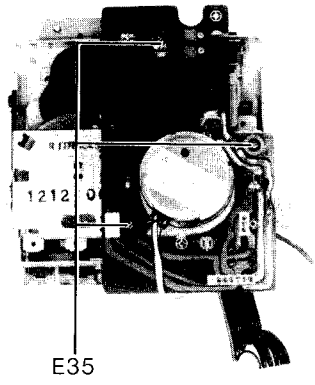


Fig. 37

ACCESSORIES AND PACKING MATERIALS

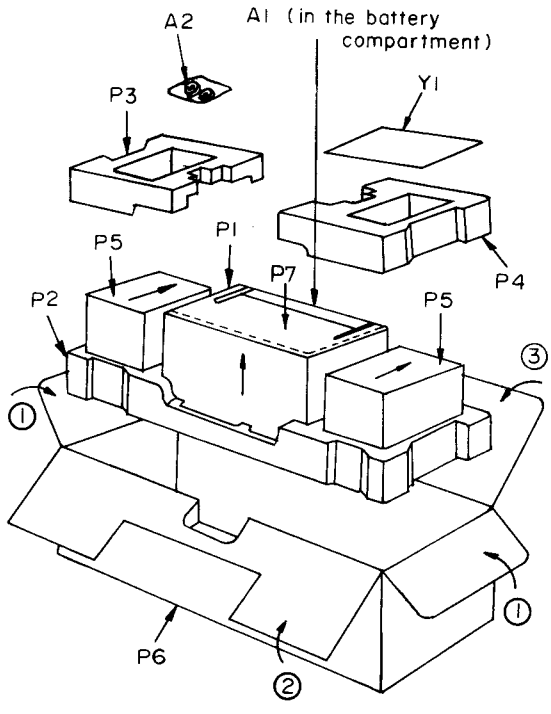


Fig. 38

■REPLACEMENT PARTS LIST ..... Model RX-C45

(RD83032066C1)

Notes:

1. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. The S mark indicates service standard parts and may differ from production parts.
3. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in OHMS (Ω) K=1000Ω, M=1000kΩ
   All capacitors are in MICRO FARADS (μF) P=μμF

*Type & Wattage of Resister

Type

ERC:Solid	ERX:Metal Film	ERW:Wirewound Resister
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resister
RRD:Chip	ERO:Metal Film	ERF:Cement Resister

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W	

*Type & Voltage of Capacitor

Type

ECFW:Semi-conductor	ECCD,ECKD,ECBT:Ceramic	
ECQS:Styrol	ECQM,ECQV,ECQG:Polyester	
ECUX:Chip	ECEA,ECSZ	:Electrolytic
ECMS:Mica	ECQP	:Polypropylene

Voltage

ECQ Type	ECQG, ECQV, Type	ECSZ Type	Others			
1H: 50V	0.5: 50V	0F:3.15V	0J	:6.3V	1H,1V,50:	50V
2A:100V	1:100V	1A:10V	1A	:10V	1J	: 63V
2E:500V	2:200V	1V:35V	1C	:16V	2A	:100V
2H:500V		0J:6.3V	1E,25:25V			

Ref. No.	Part No.	Part Name & Description	Per Set
		MECHANICAL PARTS	
M1	RJH2E8Z	R/P Head	1
M2	RFS166Z	Spring, Head	2
M3	EMHEA10	Erase Head	1
M4	SMQ4768	Head Base	1
M5	RFD135Z	Head Base Ass'y	1
M6	SMQ4168	Spacer, Head Base Ass'y	1
M7	SMQ4770	Spring, Head Base Ass'y	1
M8	RFI18Z	Take Up Roller Bearing Ass'y	1
M9	RFS249Z	Spring, Take Up Roller Bearing Ass'y	1
M10	SMQ4774	Stopper, Pinch Roller Ass'y	1
M11	SMQ4776	Pinch Roller Ass'y	1
M12	RFE72Z	Erase Head Base	1
M13	SMQ4778	Erase Safety Lever	1
M14	SMQ4780	Spring (Cassette Pressure)	1
M15	SMQ4782	Flywheel Metal	1
M16	RFY192Z	Main Gear Operation Plate Arm	1
M17	RFY193Z	Main Gear Plate	1
M18	RFS259Z	Spring (Main Gear Operation Plate Arm	1
M20	RFY184Z	Operation Lever	1
M21	RFS250Z	Spring (Operation Lever)	1
M22	SMQ4792	Spring (Brake Arm Ass'y)	1
M23	SMQ4794	Brake Arm Ass'y	1
M26	SMQ4800	Supply Reel Table Ass'y	1
M27	SMQ4802	Spring, Supply Reel Table	1
M28	SMQ4804	Take Up Reel Table Ass'y	1
M29	SMQ4806	Detector Lever Peace	1
M30	SMQ4808	Take Up Reel Table Spring	1
M31	SMQ4810	FF Gear	1
M33	RFU16Z	Reel Board Ass'y	1
M34	SMQ4814	T Roller Kick Lever	1
M35	SMQ4816	Spacer, T Roller Kick Lever etc.	7
M36	SMQ4818	Detector Lever	1
M37	SMQ4820	Detector Lever Spring	1
M38	SMQ4822	Pulley	1
M39	SMQ4824	Full Auto Belt	1
M40	SMQ4826	Cam Gear	1
M41	RFS271Z	RF Clatch Arm Spring	1
M42	RFG36Z	RF Clatch Arm Ass'y	1
M43	RFB25Z	RF Belt	1
M44	SMQ4832	RF Slide Lever Ass'y	1
M45	SMQ4834	Auto Lever	1
M46	RFY183Z	Eject Slide Lever	1
M47	SMQ4786	Spacer, Eject Slide Lever	1
M48	RFS103Z	Spring, Eject Slide Lever	1
M49	SMQ4788	Spacer, Eject Slide Lever	1
M50	SMQ4836	Button Base (L)	1
M51	SMQ4844	Record Button Lever	1
M52	SMQ4846	Playback Button Lever	1
M53	SMQ4848	REW Button Lever	1
M54	SMQ4850	FF Button Lever	1
M55	SMQ4852	Stop, Eject Button Lever	1
M56	SMQ4854	Pause Button Lever Ass'y	1
M57	SMQ4856	Button Lever Spring, R/P, REW	2
M58	SMQ4858	Button Lever Spring, FF, Pause	2
M59	SMQ4860	Spring, Pause Lever	1
M60	SMQ2444	Pause Lever	1
M61	SMQ4862	Stopper	1
M62	SMQ4840	Button Base (R)	1
M63	RFS258Z	Button Lever Spring, Stop/Eject	2
M64	RFS252Z	Pressure Button Operation Plate Spring	1
M65	RFY185Z	Pressure Button Operation Plate	1
M66	RFS253Z	Switch Operation Plate Spring	1
M67	SMQ4868	Switch Operation Plate	1
M68	SMQ4870	Screw	1
M69	SMQ4872	Eject Kick Lever	1
M74	SMQ4842	Record Stopper	1
M76	SMQ4920	Flywheel Plate	1
M77	SMQ4922	Damper Spring	1
M78	SMQ4916	Motor Rubber	3
M79	RFB26Z	Flywheel Belt	1
M80	SMQ4900	Flywheel Ass'y	1
M81	SMQ4908	REW Spring	1
M82	SMQ4906	Pause Arm Ass'y	1
M83	SMQ4894	Main Gear	1
M84	RFM16Z	Motor Ass'y	1
M85	SMQ4904	Pause Trigger Arm Spring	1
M86	SMQ4902	Pause Trigger Arm Ass'y	1
M87	RFS248Z	Lift Arm Spring	1
M88	SMQ4896	Pause Gear	1
M89	RFY212Z	Lift Arm Ass'y	1
M90	SMQ4910	Lift Arm Spacer	1
M91	SMQ4890	Main Trigger Arm Spring	1
M92	SMQ4888	Main Gear Spring	1
M93	RFS256Z	Record Damper Spring	1
M94	SMQ4886	Record Operation Arm Spring	1
M95	RFY213Z	Record Operation Arm	1
M96	RFY186Z	Record Operation Plate	1
M97	RFS254Z	Record Operation Plate Spring	1

Ref. No.	Part No.	Part Name & Description	Per Set	
M98	SMQ4892	Main Trigger Arm Ass'y	1	
M101	RME316Z	Button Frame Ass'y	1	
M102	RBC457Z	Record Button	1	
M103	RBC458Z	Playback Button	1	
M104	RBC459Z	REW Button	1	
M105	RBC460Z	FF Button	1	
M106	RBC461Z	Stop/Eject Button	1	
M107	RBC462Z	Pause Button	1	
M108	RSE94Z	Counter	1	
M109	RDV14Z	Counter Belt	1	
M112	RZUXC45N	Pulley Bracket Ass'y	1	
M113	RDR51Z	Counter Belt Roller	1	
M114	RNW230A	Washer	1	
M115	RDV15Z	Counter Belt	1	
M120	SMQ4940	Kick Lever	1	
M200	RFE73Z	Screw, Erase Head M'tg	1	
M201	XSN2+8	Screw, Erase Head Base M'tg	2	S
M202	XSN2+7	Screw, R/P Head	2	
M203	RFN72Z	Washer, R/P Head	1	
M204	XSN26+4	Screw, Head Panel Ass'y M'tg	1	S
M205	XTN26+3H	Screw, Cassette Pressure M'tg	1	
M206	XYN2+4F	Screw, Leaf Board, etc. M'tg	4	
M207	XSS2+25	Screw, Eject Kick Lever, etc. M'tg	6	
M208	XYN26+5F	Screw, Eject Slide Lever M'tg	1	
M209	XSN2+4	Screw, Eject Slide Lever M'tg	1	
M210	XYN2+6F	Screw, Eject Slide Lever M'tg	1	
M212	SMQ4928	Washer, Reel Table	2	
M213	SMQ4930	Washer, FF Gear, etc. M'tg	3	
M214	RFE71Z	Screw, Sub Chassis M'tg	2	
M215	XUC3FT	Circlip, Record Operation Arm M'tg	1	S
M216	XUC2FT	Circlip, Main, Pause Gear M'tg	2	S
M217	XYN26+6F	Screw, Lift Arm Ass'y M'tg	1	
M218	XUC15FT	E Ring, Operation Lever M'tg	1	S
M219	SMQ4932	Washer, Flywheel Metal	1	
M220	XSS2+3	Screw, Flywheel Metal M'tg	3	S
M221	RFE74Z	Screw, Sub Chassis M'tg	1	
M222	SMQ4838	Screw, Button Base Right M'tg	1	
M223	SMQ4878	Screw, Eject Kick Lever	1	
M224	SMQ4918	Screw, Motor Ass'y M'tg	3	
M226	XTV26+4F	Screw, Button Frame etc. M'tg	3	
M228	RFN73Z	Washer, Operation Plate	1	
M230	SMQ4944	Screw, Take Up Roller Kick Lever M'tg	1	
M231	XUC12FT	Circlip, Kick Lever M'tg	1	S
M232	SMQ4938	Nut, Auto Lever M'tg	1	
M233	XYN2+C6	Screw, FF/REW Lever M'tg	1	
		INTEGRATED CIRCUITS, TRANSISTORS AND DIODES		
IC1	AN7226	IC	1	
IC2	RVILA3365	IC	1	
IC301	AN7310	IC	1	
IC303	RVILA4505R	IC	1	
IC304	AN6884	IC	1	
Q1,2	2SA838-B	Transistor (Ge)	2	S
Q3	2SC829-B	Transistor (Si)	1	S
Q101,201	2SC1845E	Transistor (Si)	2	
Q103,203	2SC1684HS	Transistor (Si)	2	
Q105,205	2SC2001K2	Transistor (Si)	2	

Ref. No.	Part No.	Part Name & Description	Per Set	
Q106,206	2SC1684S	Transistor (Si)	2	
Q107∿111,207∿211	2SC1684HR	Transistor (Si)	10	
Q112,212,305,307	2SC1685-Q	Transistor (Si)	4	S
Q301	2SA722-S	Transistor (Ge)	1	S
Q303	2SC1845F	Transistor (Si)	1	
Q306	2SD592NCR	Transistor (Si)	1	
D1	MA27WA	Diode (Si)	1	
D2,101,102,201,202	MA161	Diode (Si)	5	S
D3	RVDSD113	Diode (Si)	1	
D308	LN072124P	LED	1	
D316∿319	RVDSM1A02	Diode (Si), For U.S.A	4	
D316∿319	SM112	Diode (Si), For Canada	4	S
D323	MA1068L	Diode (Si)	1	
D324	MA1100L	Diode (Si)	1	
D320,321	RVDUS1040	Diode (Si)	2	
		COILS AND TRANSFORMERS		
L1	RLD4Y54	Coil, FM Antenna	1	
L3	RLF2D143	Coil, AM Antenna	1	
L4	RLD4Y53	Coil, FM Oscillator	1	
L5	RLO2M18	Coil, AM Oscillator	1	
T1,3	RLI4M101	IFT, FM	2	S
T2	RLI2M207	IFT, AM	1	S
T301	RLT5L4C3A	Power Transformer	1	⚠
T302	RLO9B14	Bias Oscillator	1	
		VARIABLE RESISTORS		
VR101,201	EVBU14C10B54	Variable Resistor, 50kΩ (B)	1	
VR102∿106,202∿206	EWANA2C15G54	Variable Resistor, 50kΩ (G)	5	
VR301	EVNM4AA00B14	Variable Resistor, Preset, 10kΩ (B)	1	S
VR302	EWHN3AF15G15	Variable Resistor, 100kΩ (G)	1	
		VARIABLE CAPACITOR		
VC1∿4	RCV4LC2R1A	Tuning Capacitor, w/Trimmer Capacitor (CT1∿4)	1	
		CERAMIC FILTERS		
CF1	RVF107MTWAZ	Ceramic Filter	1	
CF2	RVFSFZ455B	Ceramic Filter	1	
		COMPONENT COMBINATION		
Z1	RXABPMB6AW	Component Combination	1	
		SPEAKERS		
	EAS10P239S	Speaker, 10cm (4"), 3Ω, PM Dynamic	2	
	EAS3FP03A	Speaker, 3cm (1-1/4"), 1.3kΩ, Ceramic	2	
		SWITCHES		
S1	RSS2B37Y	Switch, Band	1	
S2	RSS3D13Y	Switch, Function	1	
S3,4	RSHX049Z	Switch, Mode/BP, Tape	1	
S5	RSH2J01T	Switch, Play/Record	1	
S6	RSS2D01X	Switch, Input	1	
S9∿11	RSH1A25Z	Switch, Motor/Play/FF, REW	3	
S13	RSR4A07Y	Switch, Voltage Selector	1	⚠
		JACKS		
J1	RJJ1D7Z	Jack, Microphone (Lch)	1	
J2	QJA0172A	Jack, Microphone (Rch)	1	
J3	RJJ1E9Y	Jack, Headphone	1	
J4	RJJ1F1Z	Jack, AC/DC IN	1	⚠
J5	RJF1086Z	Jack, Line/Phone	1	
		CABINET PARTS		
K1	RYM1XC45M7	Front Cabinet Ass'y	1	
K2	RYFXC45M7	Rear Cabinet Ass'y, For U.S.A	1	
K2	RYFXC45C7	Rear Cabinet Ass'y, For Canada	1	

Ref. No.	Part No.	Part Name & Description	Per Set	
K2-1	RJC931Z	Spring, Battery +, -	1	
K2-2	RKX277Z3	Handle	1	
K2-3	RKX255Z	Arm	2	
K2-4	RNW591Z	Washer, Arm	4	
K2-5	XTC3+8CFN	Screw, Handle M'tg	2	
K3	RYPXC45M3	Cassette Panel Ass'y	1	
K4	RYQXC45M	Cassette Holder	1	
K5	RKK244Z92	Cover, Batter Compartment	1	
K6	XEARR225EAY	Telescopic Antenna	1	
K7	RUS504Z	Spring, Cassette Holder	1	
K8	RME323Z	Gear Holder	1	
K9	QDG1102	Dump Gear	1	
K10	RBS193Z	Knob, Balance	1	
K11	XYN3+F16FN	Screw, Telescopic Ant M'tg	1	
K12	XTN3+45G	Screw, Cabinet M'tg	5	
K13	XTV3+10G	Screw, Gear Holder M'tg	2	
K14	RYM2XC45M92	Speaker Cabinet Front Ass'y	2	
K15	RKF641Z92	Cover, Speaker Cabinet (Left)	1	
K16	RKF641Y92	Cover, Speaker Cabinet (Right)	1	
K17	RUA539Z	Slider Chassis	2	
K18	RJT815Z	Terminal, Speaker	4	
K19	RDS2072Z	Spring, Slider	2	
K20	RHM159Z	Steel Ball, Slider	2	
K21	RGE72Z	Slider	2	
K22	RJF1090Z	Terminal	2	
K23	RUL688Z	Bracket	2	
K24	XTN3+20C	Screw, Speaker Cover M'tg	8	
K25	XTV3+12G	Screw, Slider Chassis M'tg	6	
K26	XTV3+8G	Screw, Woofer M'tg	8	
K27	XTV3+10G	Screw, Tweeter M'tg	4	
		ELECTRICAL PARTS		
E1	RYT1XC45M	Tuning Knob Ass'y	1	
E2	RBD202Z	Knob, Band, Function	2	
E3	RBD201Z	Knob, Volume	1	
E4	RBD200Z	Knob, Graphic Equalizer	5	
E5	RBC470Z	Button, Tape, Mode/BP	2	
E6	RJS2L1Z	Socket, 2 Pin	1	
E7	RJT462Z	Terminal, Socket	2	
E8	RJS3L3Z	Socket, 3 Pin	1	
E9	RJS4L3Z	Socket, 4 Pin	1	
E10	RJS6L3Z	Socket, 6 Pin	1	
E11	RJS9L3Z	Socket, 9 Pin	1	
E12	RJT707Z	Terminal, Socket	22	
E13	RJP2G2Z	Plug, 2 Pin (CP3)	1	
E14	RJP3G4Y	Plug, 3 Pin (CP1)	1	
E15	RJP4G9Y	Plug, 4 Pin (CP5)	1	
E16	RJP6G4Y	Plug, 6 Pin (CP4)	1	
E17	RJP9G4Y	Plug, 9 Pin (CP2)	1	
E18	RDE132Z	Gear, Dial	1	
E19	RDP243Z	Pointer, Dial	1	
E20	RUA533Z	Dial Chassis	1	
E21	WM034CZ192	Microphone	1	
E22	RME322Z	Holder, Microphone	1	
E23	RJF1088Z	Terminal, EXT Speaker	2	
E24	RJT816Z	Terminal, Speaker	4	
E25	RJC511Z	Spring, Battery - Side	1	
E26	RMC607Z	Shield Cover, IC1	1	
E27	RMC880Z	Shield Cover, Circuit Board	1	
E28	RDG5712Z	Gear, Dial	1	
E29	RUB279Z	Lever, Record/Play	1	
E30	XTWR3+12Q	Screw, Lever M'tg	1	
E31	XTV3+12G	Screw, Circuit Board M'tg	11	
E32	XSN26+6	Screw, Gear M'tg	1	S
E33	XWA26B	Washer	1	S
E34	XTV3+8BFN	Screw, Heat Sink M'tg	2	
E35	XTV26+6F	Screw, Circuit Board M'tg	3	
E36	XTW3+12Q	Screw, Tuning Knob M'tg	1	
		ACCESSORIES		
A1	RJA22Y	Power Cord, AC	1	⚠
A2	RJE123Z	Cord, Speaker (1.5m)	2	
		PACKING MATERIALS		
P1	XZB50X40A04	Polyethylene Cover	1	S
P2	RPN3971Z	Pad, Bottom	1	
P3	RPN3972Z	Pad, Side	1	
P4	RPN3976Z	Pad, Side	1	
P5	XZB36X35A04	Polyethylene Cover	2	S
P6	RPK1580Z	Gift Box, for U.S.A	1	
P6	RPK1581Z	Gift Box, For Canada	1	
P7	RPH418Z	Soft Sheet	1	
		PRINTED MATERIALS		
Y1	RQX4125Z	Instruction Book, For U.S.A	1	
Y1	RQX4126Z	Instruction Book, For Canada	1	

Ref. No.	Part No.	Value
	RESISTORS	
R2	ERD25FJ470	47 S
R3	ERD25FJ222	2.2k S
R7	ERD25TJ224	220k S
R9	ERD25FJ122	1.2k S
R10	ERD25TJ824	820k S
R22	ERD25FJ101	100 S
R26	ERD25FJ223	22k S
R107	ERD25TJ474	470k S
R113	ERD25TJ154	150k S
R115	ERD25TJ474	470k S
R116	ERD25FJ153	15k S
R117	ERD25FJ392	3.9k S
R120	ERD25FJ122	1.2k S
R125	ERD25FJ331	330 S
R141	ERD25TJ224	220k S
R161	ERD25FJ221	220 S
R163	ERD25FJ100	10 S
R165	ERD25TJ104	100k S
R207	ERD25TJ474	470k S
R215	ERD25TJ474	470k S
R216	ERD25FJ153	15k S
R217	ERD25FJ392	3.9k S
R234	ERD25FJ153	15k S
R241	ERD25TJ224	220k S
R261	ERD25FJ221	220 S
R263	ERD25FJ100	10 S
R265	ERD25TJ104	100k S
R307	ERD25FJ222	2.2k S
R311	ERD25FJ222	2.2k S
R312	ERD25FJ223	22k S
R314	ERD25FJ391	390 S
R315	ERD25FJ181	180 S
R316	ERD25FJ150	15 S
R317	ERD25TJ106	10M S
R318	ERD25FJ680	68 S
R319	ERD25FJ821	820 S
R320	ERD25FJ181	180 S
R321	ERD25FJ101	100 S
R329	ERD25FJ102	1k S
R330	ERD25FJ2R7	2.7 S
R331	ERD25FJ101	100 S
R333	ERD25FJ681	680 S
R341	ERD25FJ392	3.9k S
R343	ERX1ANJR47	0.47 S
R345	ERD25FJ680	68 S
R346	ERD50FJ101	100 S
R347	ERD25FJ821	820 S
R348	ERD25FJ391	390 S

Ref. No.	Part No.	Value
	CAPACITORS	
C1	ECBS1H180JC	18P
C2	ECBS1H4R7KC	4.7P
C3	ECBS1H331KB	330P
C4	ECBS1H220JL	22P
C5	ECBS1H102KB	0.001
C6	ECBS1H5R6KC	5.6P
C7	ECBS1H5R6KC	5.6P
C8	ECBS1H120JC	12P
C9	ECBS1H5R6KC	5.6P
C10	ECKD1H103ZF	0.01
C11	ECFT1E223MD	0.022
C12	ECFT1E223MD	0.022
C13	ECFT1E223MD	0.022
C14	ECFT1E223MD	0.022
C15	ECEA1CS330	33 S
C16	ECBS1H100JC	10P
C17	ECKD1H102ZF	0.001
C18	ECBS1H470JL	47P
C19	ECCD1H820K	82P
C20	ECFT1E473MD	0.047
C21	ECBS1H101JL	100P
C22	ECEA50Z1	1 S
C23	ECFT1E683MD	0.068
C24	ECFT1E473MD	0.047
C25	ECEA50Z1	1 S
C27	ECEA1HS0R1	0.1
C28	ECQM1H102JV	1000P
C29	ECBS1C103NY	0.01
C30	ECKD1H103ZF	0.01
C31	ECBS1H102KB	0.001
C32	ECEA1AS101	100 S
C33	ECFT1E223MD	0.022
C34	ECBT1C223MY	0.022
C35	ECBS1H102KB	0.001
C36	ECCD1H101K	100P
C101	ECBS1E222MX	0.0022
C102	ECBS1H221KB	220P
C103	ECBS1C103MY	0.01
C105	ECEA50Z1	1 S
C106	ECBS1H102KB	0.001
C108	ECEA50Z1	1 S
C109	ECQV05274JZ	0.27
C110	ECEA50Z1	1 S
C111	ECBS1H102KB	0.001
C112	ECEA50Z1	1 S
C113	ECEA1HSR22	0.22
C114	ECFT1E683MD	0.068
C115	ECEA25Z4R7	4.7 S

Ref. No.	Part No.	Value
C116	ECEA1AS470	47 S
C117	ECBS1H102KB	0.01
C118	ECEA50Z1	1 S
C119	ECEA1HSR22	0.22
C120	ECFT1E333MD	0.033
C122	ECEA1HSR22	0.22
C124	ECEA50Z1	1 S
C125	ECEA50Z1	1 S
C126	ECBS1H101JL	100P
C127	ECEA50Z1	1 S
C128	ECEA1HS100	10 S
C130	ECFT1E473MD	0.047
C131	ECEA50Z1	1 S
C132	ECFT1E153MD	0.015
C133	ECEA50ZR47	0.47 S
C134	ECBS1E152MY	0.0015
C135	ECEA1AU101	100
C136	ECFT1E472KD	0.0047
C137	ECEA1HSR22	0.22
C138	ECFT1E152KD	0.0015
C139	ECFT1E473MD	0.047
C140	ECBS1H220JL	22P
C141	ECBS1H6R8KL	6.8P
C142	ECKD1H471KB	470P
C143	ECFT1E153MD	0.015
C144	ECBS1H102KB	0.001
C146	ECBS1H102KB	0.001
C147	ECBT1E103MM	0.01
C148	ECEA1AU101	100
C149	ECEA1AU102	1000
C150	ECQV05224JZ	0.22
C151	ECBS1C103NY	0.01
C152	ECEA1HS0R1	0.1
C155	ECBS1H101JL	100P
C157	ECCD1H470K	47P
C158	ECBS1H101JL	100P
C159	ECFT1E473MD	0.047
C201	ECBS1E222MX	0.0022
C202	ECBS1H221KB	220P
C203	ECBS1C103MY	0.01
C205	ECEA50Z1	1 S
C206	ECKD1H102MD	0.001
C208	ECEA50Z1	1 S
C209	ECQV05274JZ	0.27
C210	ECEA50Z1	1 S
C211	ECKD1H102MD	0.001
C212	ECEA50Z1	1 S
C213	ECEA1HSR22	0.22
C214	ECFT1E683MD	0.068
C215	ECEA25Z4R7	4.7 S
C216	ECEA1AS470	47 S
C217	ECBS1H102KB	0.001
C218	ECEA50Z1	1 S
C219	ECEA1HSR22	0.22
C220	ECFT1E333MD	0.033
C222	ECEA1HSR22	0.22
C224	ECEA50Z1	1 S
C225	ECEA50Z1	1 S
C226	ECBS1H101JL	100P
C227	ECEA50Z1	1 S
C228	ECEA1HS100	10 S
C230	ECFT1E473MD	0.047
C231	ECEA50Z1	1 S
C232	ECFT1E153MD	0.015
C233	ECEA50ZR47	0.47 S
C234	ECBS1E152MX	0.0015

Ref. No.	Part No.	Value
C235	ECEA1AU101	100
C236	ECFT1E472KD	0.0047
C237	ECEA1HSR22	0.22
C238	ECFT1E152KD	0.0015
C239	ECFT1E473MD	0.047
C240	ECBS1H220JL	22P
C241	ECBS1H6R8KL	6.8P
C242	ECKD1H471KB	470P
C243	ECFT1E153MD	0.015
C244	ECBS1H102KB	0.001
C246	ECBS1H102KB	0.001
C247	ECBS1C103NY	0.01
C248	ECEA1AU101	100
C249	ECEA1AU102	1000
C250	ECQV05224JZ	0.22
C251	ECBS1C103NY	0.01
C252	ECEA1HS0R1	0.1
C255	ECBS1H101JL	100P
C257	ECCD1H470K	47P
C258	ECBS1H101JL	100P
C259	ECFT1E473MD	0.047
C301	ECEA1HSR22	0.22
C302	ECEA1HS0R1	0.1
C303	ECBS1H331KB	330P
C309	ECEA1AU471	470
C310	ECCD1H151K	150P
C311	ECQP2A272JZ	2700P
C312	ECEA1AU101	100
C313	ECEA1AS221	220 S
C314	ECFT1E333MD	0.033
C315	ECEA1HS100	10 S
C316	ECEA1AS470	47 S
C317	ECEA1CS330	33 S
C318	ECFT1E223MD	0.022
C326	ECEA1CU221	220
C327	ECEA1ESS332	3300
C328	ECEA1AS221	220 S
C330	ECEA1EU101	100
C331	ECEA1AU101	100
C332	ECEA1HS100	10 S
C333	ECKD1H223ZF	0.022
C334	ECKD1H223ZF	0.022
C335	ECKD1H223ZF	0.022
C336	ECKD1H223ZF	0.022
C337	ECEA1AU101	100
C341	ECBS1C103NY	0.01
C342	ECBS1C103NY	0.01
C343	ECBS1C103NY	0.01
C344	ECBS1C103NY	0.01
C345	ECEA1AU101	100
C346	ECEA1EU101	100
C347	ECEA1AU101	100
C348	ECBS1E222NX	0.0022
C349	ECFT1E223MD	0.022
C350	ECBS1H102KB	0.001
C351	ECBS1H102KB	0.001
C352	ECBS1H102KB	0.001
C354	ECKD1H223ZF	0.022
C356	ECBS1H102KB	0.001
C357	ECKD1H103MD	0.01
C358	ECEA1HS100	10 S
C359	ECEA1HSR33	0.33
C360	ECBS1H102KB	0.001
C361	ECBS1H102KB	0.001
C362	ECEA50Z1	1 S
C363	ECBS1H331KB	330P